# PATENT ABSTRACTS OF JAPAN

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(54) **ION IMPLANTING APPARATUS**

(57)Abstract:
PROBLEM TO BE SOLVED: To provide an ion implantation apparatus with less energy contamination or less abnormal energy distribution, without making the device large even if the substrate becomes large sized. SOLUTION: This ion implantation device accelerates or decelerates mass-separated ions to a specified energy and combines electromagnetic scanning of ion beams on the scanning surface, containing the reference axis of beams with mechanical scanning for moving a substrate to be ion implanted along the straight line crossing perpendicular to the scanning surface. A first fan- shaped electromagnet 2 for conducting mass separation and a mass separating slit 3 are installed in the path of ion beams, an electrostatic deflector 4 for scanning beams, and an accelerating tube 6 having a plurality of circular arc- shaped electrodes are installed in front of the mass separation slit 3 in order, a second fan-shaped electromagnet 7, whose deflecting surface agrees with the deflecting surface of the electrostatic deflector 4 is installed in front of the accelerating tube 6, and the curvature center of the circular arc-shaped electrode of the accelerating tube 6 and the inlet side focal point of the second fan-shaped electromagnet 7 are made to coincide with the deflecting center of the electrostatic deflector 4.